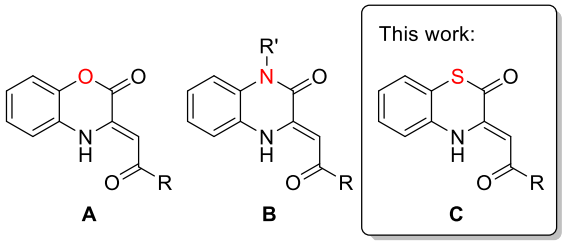
OR-40

SYNTHESIS OF ENAMINONES BEARING 1,4-BENZOTHIAZINE-2-ONE CORE

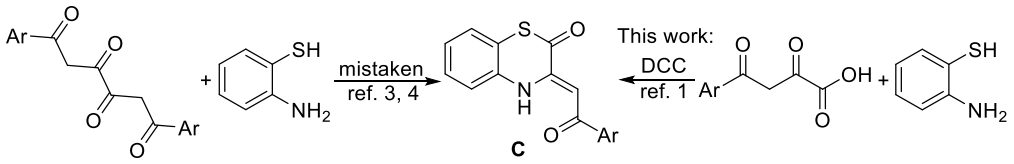
E. E. Stepanova, A. N. Maslivets

Perm State University, ul. Bukireva 15, Perm, 614990, Russia.
E-mail: caterina.stepanova@psu.ru

Abstract. Enaminones bearing a 1,4-benzoxazine-2-one **A** or quinoxaline-2(1*H*)-one **B** core are an intensively investigated class of heterocyclic compounds. Interest in them is due to the simplicity of their synthesis and purification, the availability of starting materials and the possibility of their synthesis under mild green conditions. Because of their availability in gram-scale quantities, these compounds were thoroughly investigated for the possibility of practical use. They also proved themselves to be versatile and available building blocks for the synthesis of various heterocyclic systems. That's why investigations on properties of their 1-thia analogs, 1,4-benzothiazin-2-ones **C**, is promising [1].



Today few approaches to compounds **C** are known. Our recent research [2] revealed that reaction of tetracarbonyl compounds with *o*-aminothiophenol [3, 4] is a mistaken approach to target compounds **C**. Considering these, it can be concluded that there are no convenient synthetic approaches with a wide substrate scope to compounds **C**.



We developed a convenient synthetic approach to 1,4-benzothiazin-2-ones **C** based on the reaction of aroylpyruvic acids and *o*-aminothiophenols in the presence of carbodiimides [1].

References

1. Stepanova E. E. Synthesis of 1,4-benzothiazinones from acylpyruvic acids or furan-2,3-diones and *o*-aminothiophenol / E. E. Stepanova, M. V. Dmitriev, A. N. Maslivets // Beilstein Journal of Organic Chemistry. – 2020. – Vol. 16. – in print.
2. Structure of Reaction Products of 1,3,4,6-Tetracarbonyl Compounds with *o*-Aminothiophenol. Synthesis of 3-aryl-1-(1,3-benzothiazol-2-yl)-3-hydroxyprop-2-en-1-ones / E. E. Stepanova, M. O. Krasokha, A. R. Galeev [et al.] // Russian Journal of Organic Chemistry. – 2018. – Vol. 54, Iss. 11. – P. 1735–1738.
3. Kozminykh V. O. Synthesis of Regioisomeric 3-Phenacylidene-2,3-dihydro-4*H*-benzothiazin-2-one and 2-Phenacylidene-2,3-dihydro-4*H*-benzothiazin-3-one / V. O. Kozminykh, N. M. Igidov, E. N. Kozminykh // Chemistry of Heterocyclic Compounds. – 2002. – Vol. 38, Iss. 3. – P. 365–367.
4. Kozminykh V. O. Tetracarbonyl Systems: VII. Reactions of 1,3,4,6-Tetracarbonyl Compounds with *o*-Aminothiophenol in the Synthesis of Regioisomeric 3(2)-Aroylmethylene-1,4-benzothiazin-2(3)ones / V. O. Kozminykh, N. M. Igidov, E. N. Kozminykh // Russian Journal of Organic Chemistry. – 2003. – Vol. 39, Iss. 6. – P. 863–868.

This work was supported by the Ministry of Science and Higher Education of the Russian Federation (FSNF-2020-0008), Russian Foundation for Basic Research (project no. 17-43-590035) and the Government of Perm Krai.